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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/763,980	04/20/2001	Werner Jacob	INA-PT049	3600

3624 7590 06/11/2002

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EXAMINER

ABDELNOUR, DENNIS J

ART UNIT PAPER NUMBER

3681

DATE MAILED: 06/11/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/763,980

Applicant(s)

JACOB ET AL.

Examiner

Dennis J. Abdelnour

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 20 April 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 April 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 05.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

### **DETAILED ACTION**

The following is a first action on the merits of application Serial No. 09/763,980 filed on April 20, 2001. This application is a 371 of PCT/EP99/05885 filed August 11, 1999 and claiming priority of German application 198 39 481.0 filed August 29, 1998.

#### ***Drawings***

1. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

#### ***Claim Objections***

2. Claim 1 is objected to because of the following informalities: in line 2, the term “angular-connect” appears to be improperly substituted for the term “angular-contact”.

3. Claim 3 is objected to because of the following informalities: in line 1, the term “races of that” appears to mean “races of the”.

4. Claims 2 and 3 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Since any two bearings would inherently be either the same diameter or a different diameter and have either the same pressure angle or a different pressure angle, these claims do not appear to further limit claim 1. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Appropriate correction is required.

*Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Åsberg (USPN 3,792,625) in view of Hutzl (USPN 4,699,527).

Åsberg discloses a differential for a motor vehicle. The differential bevel-pinion shaft 7 is supported in a drive housing 1 by two spaced and axially pretensioned angular contact ball bearings as best seen in Figure 1. The bevel pinion 6 and ring gear 3 drive the differential unit and output gears to rotate the wheel shafts of a motor vehicle. The unilaterally loadable tandem angular-contact ball bearings each include a one-piece inner bearing race 15 and a one-piece outer bearing race 11 or 12 and face each other in an O-arrangement as shown by the contact lines in Figure 1.

Åsberg does not disclose the bearings as double row.

Hutzl discloses a similar angular contact bearing assembly in Figure 10. The assembly is shown as double-row, unilaterally loadable angular-contact ball bearings set in a one-piece inner race 35 and one-piece outer race 36.

It would have been obvious to one having ordinary skill in the art at the time of the invention to replace the single-row angular-contact ball bearings on Åsberg's differential input shaft with the double-row angular-contact ball bearings as taught by Hutzl in order to distribute the thrust load between the double row bearings.

Art Unit: 3681

7. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Åsberg in view of Hutzel as applied to claims 1-4 and 6 above, and further in view of Hampp, W. "Walzlager – Berechnung und Gestaltung".

Åsberg in view of Hutzel has been previously described in the rejection of claims 1-4 and 6. Åsberg in view of Hutzel fails to disclose the first angular-contact ball bearing positioned next to the bevel pinion as being larger than the second ball bearing.

The publication by Hampp, W. entitled "Walzlager – Berechnung und Gestaltung" discloses in Figure 88 a similar differential assembly utilizing roller bearings. The bearing adjacent the bevel gear is shown as being larger than the second bearing.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the ball bearings as disclosed by Åsberg in view of Hutzel to make the adjacent bearing to the bevel gear larger than the second bearing in order to account for sections with different shafts diameters along the input shaft.

***Facsimile Transmission***

8. Submission of your response by facsimile transmission is encouraged. Group 3600's facsimile number is **(703) 305-3597**. Recognizing the fact that reducing cycle time in the processing and examination of patent applications will effectively increase a patent's term, it is to your benefit to submit responses by facsimile transmission whenever permissible. Such submission will place the response directly in our examining group's hands and will eliminate Post Office processing and delivery time as well as the PTO's mailroom processing and delivery time. For a complete list of correspondence **not** permitted by facsimile transmission, see MPEP 502.01. In general, most responses and/or amendments not requiring a fee, as well as those

Art Unit: 3681

requiring a fee but charging such fee to a deposit account, can be submitted by facsimile transmission. Responses requiring a fee which applicant is paying by check **should not be** submitting by facsimile transmission separately from the check.

Responses submitted by facsimile transmission should include a Certificate of Transmission (MPEP 512). The following is an example of the format the certification might take:

I hereby certify that this correspondence is being facsimile transmitted to  
the Patent and Trademark Office (Fax No. (703) 305-3597) on \_\_\_\_\_

(Date)

Typed or printed name of person signing this certificate:

\_\_\_\_\_

\_\_\_\_\_

(Signature)

If your response is submitted by facsimile transmission, you are hereby reminded that the original should be retained as evidence of authenticity (37 CFR 1.4 and MPEP 502.02). Please do not separately mail the original or another copy unless required by the Patent and Trademark Office. Submission of the original response or a follow-up copy of the response after your response has been transmitted by facsimile will only cause further unnecessary delays in the processing of your application; duplicate responses where fees are charged to a deposit account may result in those fees being charged twice.


9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dennis J. Abdelnour whose telephone number is (703) 305-5309. The examiner can normally be reached on Monday-Friday, 8:00-5:30, alternate Fridays off.

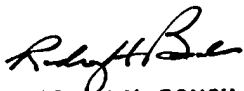
Art Unit: 3681

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on (703) 308-0830. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 305-3597 for regular communications and (703) 305-3597 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2168.

dja

  
June 6, 2002

  
RODNEY H. BONCK  
PRIMARY EXAMINER  
ART UNIT 3681